G Series Serial Commands

Application Guide

CHRISTIE®

NOTICES

REGULATORY

The product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. The product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

CAN ICES-3 (A) / NMB-3 (A)

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The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol ⊠ means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!

Canadian manufacturing facility is ISO 9001 and 14001 certified.

GENERAL WARRANTY STATEMENTS

For complete information about Christie's limited warranty, see the Christie website (www.christiedigital.com) or contact your Christie dealer. In addition to the limitations that may be specified in Christie's limited warranty, the warranty does not cover:

a. Problems or damage occurring during shipment, in either direction.

b. Projector lamps (See Christie's separate lamp program policy).

c. Problems or damage caused by use of a projector lamp beyond the recommended lamp life, or use of a lamp supplied by a supplier other than Christie or an authorized distributor of Christie lamps.

d. Problems or damage caused by combination of a Product with non-Christie equipment, such as distribution systems, cameras, DVD players, etc., or use of a Product with any non-Christie interface device.

e. Problems or damage caused by the use of any lamp, replacement part or component purchased or obtained from an unauthorized distributor of Christie lamps, replacement parts or components including, without limitation, any distributor offering Christie lamps, replacement parts or components through the internet (confirmation of authorized distributors may be obtained from Christie).

f. Problems or damage caused by misuse, improper power source, accident, fire, flood, lightening, earthquake or other natural disaster.

g. Problems or damage caused by improper installation/alignment, or by equipment modification, if by other than Christie service personnel or a Christie authorized repair service provider.

h. Problems or damage caused by use of a Product on a motion platform or other movable device where such Product has not been designed, modified or approved by Christie for such use.

i. Problems or damage caused by use of a projector in the presence of an oil-based fog machine or laser-based lighting that is unrelated to the projector.

j. For LCD projectors, the warranty period applies only where the LCD projector is in "normal use." "Normal use" means the LCD projector is not used more than 8 hours a day, 5 days a week.

k. Except where the Product is designed for outdoor use, problems or damage caused by use of the Product outdoors unless (i) such Product is protected from precipitation or other adverse weather or environmental conditions and the ambient temperature is within the recommended ambient temperature set forth in the specifications for such Product and (ii) if the Product is an LCD flat panel, such LCD flat panel is not exposed to direct sunlight.

l. Image retention on LCD flat panels.

m. Defects caused by normal wear and tear or otherwise due to normal aging of a Product.

n. Products where the serial number has been removed or obliterated.

o. Products sold by a Reseller to an End User outside of the country where the Reseller is located unless (i) Christie has an office in the country where the End User is located or (ii) the required international warranty fee has been paid.

p. Products when there is failure to perform maintenance as required and in accordance with the maintenance schedule.

q. This warranty does not obligate Christie to provide any on site warranty service at the Product site location.

PREVENTATIVE MAINTENANCE

Preventative maintenance is an important part of the continued and proper operation of your product. Please see the Maintenance section for specific maintenance items as they relate to your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, will void the warranty.

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Table of Contents

Introduction

This document provides information and procedures for using serial commands (ASCII text messages) to control G Series projectors.

Technical Support

If you are unable to resolve an issue, contact Christie support:

- North and South America: +1-800-221-8025 or *tech-support@christiedigital.com*
- Europe, Middle East, and Africa: +44 (0) 1189 778111 or *techsupport-emea@christiedigital.com*
- Asia Pacific: *tech-asia@christiedigital.com*

In order that a support representative can better assist you, have the model and serial number of your projector ready.

Communicate with the Projector

This section provides information and procedures for communicating with the projector from a remote location. You can communicate with the projector through the RS232 IN port or the Ethernet port.

When connecting the projector to a computer, use a direct connection. Docking ports can cause software upgrade failures.

Connect to the Projector RS232 IN Port

1. Connect one end of a null standard 9-pin female to female modem cable to the projector RS232 IN port.

2. Connect the other end of the null standard 9-pin female to female modem cable to a computer.

3. Connect PIN 2 to PIN 3, PIN 3 to PIN 2 and PIN 5 to PIN 5.

RS232 Communication Parameters

This table lists the communication parameters for the projector RS232 IN port.

Parameter	Value
Default Baud Rate	115200
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Message Format

You can add a space between the code and the number when entering commands. For example, `PXT50` can be entered as `PXT 50`. To increase or decrease a value in some commands, enter `n` for the next value and `p` for the previous value. For example:

`(OVS0): OFF`

`(OVS1): ZOOM`

`(OVS2): CROP`

If the current over scan (`OVS`) setting is off (`OVS n`) the command `OVS p` sets the value to zoom.

Message Types and Formats

Commands sent to and from the projector are formatted as simple text messages that consist of a three letter command code, an optional four letter subcode, and optional data. You can include optional features such as message acknowledgments with your commands.

This table lists the available message types.

Message Type	Description
Set	A command to set a projector parameter at a specific level, such as changing the brightness.
Request	A request for information, such as what is the current brightness setting
Reply	The projector returns the data in response to a request or as confirmation of a command.

This table lists the message format.

Source	Format	Function	Example
From controller	(Code Data)	SET (set contrast to 50)	`(CON500) or (CON 500)`
	(Code+Subcode Data)	SET (set source 1 name to "VGA BOX 1")	`(SNS+SRC1 "VGA BOX 1")`
	(Code ?)	REQUEST (what is current contrast?)	`(CON?) or (CON ?)`
	(Code+Subcode ?)	REQUEST (what is lamp 1 hours?)	`(LIF+LP1H?)`
From Projector	(Code Data)	REPLY (contrast is 50)	`(CON!50)`
	(Code+Subcode Data)	REPLY (LMP 1 HOURS IS 534)	`(LIF+LP1H!534)`

Message Structure

This table lists the components of an ASCII command.

Message Element	Description
Parentheses	Commands are enclosed by parentheses ().
	If a start character is received before an end character of the previous message, the partial (previous) message is discarded.
Prefix characters (optional)	Acknowledges the projector has responded or increases message integrity when added before the 3-character function code.
	Use the number symbol (#) to request a full acknowledgment. A full acknowledgement sends an echo of the message as a reply from the projector when it finishes processing the command. Do not include a full acknowledgement in a request message.

Message Element	Description
Function code	The primary projector function being queried or modified. Each function code is represented by a three-character, upper or lower case ASCII code (A-Z).
	The function code appears after the first parenthesis. If a command does not include a subcode, a space between the function code and the first parameter (or special character) is optional.
+subcode	The secondary projector function being queried or modified.
	Each subcode is represented by a four-character, upper or lower case ASCII code (A-Z and 0-9). The subcode appears after the function code, and it is separated from the function code with a plus symbol (+). If a subcode is not included, the plus symbol is not required.
	If a command includes a subcode, a space between the subcode and the first parameter (or special character) is optional.
Request and reply symbols	The question mark symbol (?) appears after the function code when the controller requests projector information.
	An exclamation mark (!) appears after the function code when the projector responds to a request.
	Do not include a question or exclamation mark when creating a `SET` command.

Error Messages

If a command cannot be performed, a descriptive error identifying the problem appears. For example, this message indicates a syntax error:

`(ITP) – (65535 00000 ERR00005 "ITP: Too Few Parameters")`

Commands

This section list the commands that you can use with G series projectors.

Size and Position Commands

This section lists the commands that you can use to modify the size and position of the projected image.

Auto Image (AIM)

Use this command to reacquire and lock an input signal. These are the available options:

- Normal mode - supports all 4:3 input sources.
- Wide mode - supports all 16:9 input sources and most 4:3 input sources. If a 4:3 input source such as 1400 x 1050 is not recognized, use Normal mode to perform auto image.

Subcode

None

Read/Write

Write only

Examples

Command	Description
(AIM0):Normal mode	Reacquires a signal in normal mode.
(AIM1):Wide mode	Reacquires a signal in wide mode.

Curve Geometry Correction (CRV)

Use this command to correct the symmetry of a constant radius horizontal or vertical curve by modifying the top and bottom of the image. Compound curves are not supported. The projector should be mounted perpendicular to the chord of the curve within the offset limitation of the lens used (ideally on axis). No tilt correction.

This command is not available if a Dual Processor Warp Module (DPWM) is not installed.

The curve adjustment range is 0 to 800 and the default value is 400.

This image illustrates the maximum adjustment range:
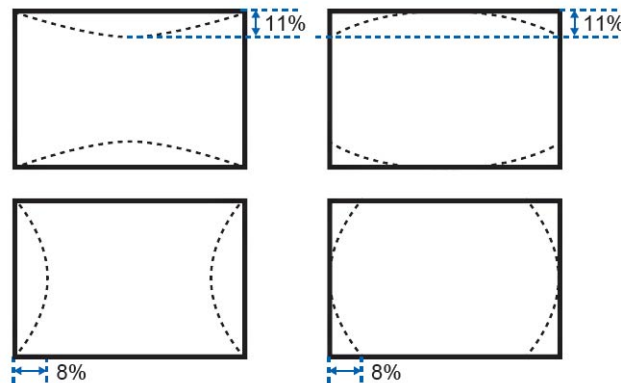
Subcode

Subcode	Description
TARC	Applies a top arc adjustment.
BARC	Applies a bottom arc adjustment.
LARC	Applies a left arc adjustment.
RARC	Applies right arc adjustment.

Read/Write

Write only

Examples

Command	Description
(CRV+TARC 20)	Sets the top arc adjustment value to 20.

Digital Horizontal Shift (DSH)

Use this command to move the projector image left or right. If the image is not zoomed out (Digital Zoom), this command is disabled.

Set the value to zero to move the display area to the extreme left. Set the value to 50 to horizontally center the display area. Set the value to 100 to move the display area to the extreme right. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(DSH50)	

Digital Vertical Shift (DSV)

Use this command to move the projector image up or down. If the image is not zoomed out (Digital Zoom), this command is disabled.

Set the value to zero to move the display area to the top. Set the value to 50 to vertically center the display area. Set the value to 100 to move the display area to the bottom. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Write only

Examples

Command	Description
(DSV50)	

Digital Horizontal Zoom (DZH)

Use this command to change the size of projector horizontal display area. If the display area has been resized with this setting, use the Digital Horizontal Shift and Digital Vertical Shift commands to readjust the image. The adjustment range is 50% to 400% and the default value is 100%.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(DZH100)	

Digital Vertical Zoom (DZV)

Use this command to change the size of projector vertical display area. If the display area has been resized with this setting, use the Digital Horizontal Shift and Digital Vertical Shift commands to readjust the image. The adjustment range is 50% to 400% and the default value is 100%.

Subcode
None

Read/Write
Yes

Examples

Command	Description
(DZV100)	

Four Corner Geometry Correction (CNR)

Use this command to fit an image in an area defined by x and y coordinates. This command is not available if a Dual Processor Warp Module (DPWM) is not installed.

The horizontal adjustment range is 0 to 190 and the vertical adjustment range is 0 to 100. The default value for both adjustments is 0.

This image illustrates the maximum adjustment range:
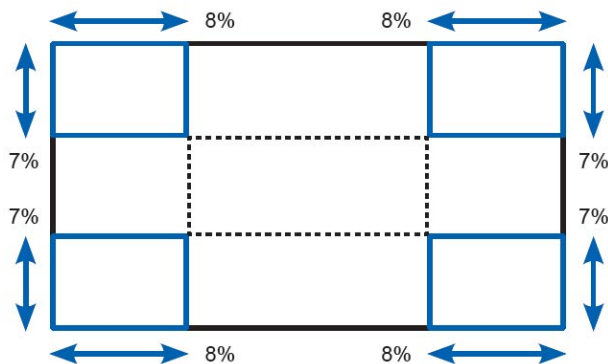
Subcode

Subcode	Description
TLCX	Applies a top left horizontal adjustment.
TLCY	Applies a top left vertical adjustment.
TRCX	Applies a top right horizontal adjustment.
TRCY	Applies a top right vertical adjustment.
BLCX	Applies a bottom left horizontal adjustment.
BLCY	Applies a bottom left vertical adjustment.
BRCX	Applies a bottom right horizontal adjustment.
BRCY	Applies a bottom right vertical adjustment.

Read/Write

Write only

Examples
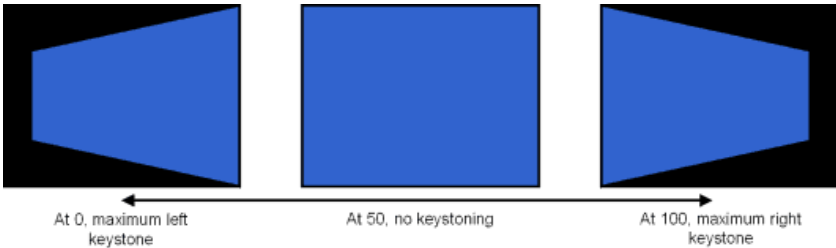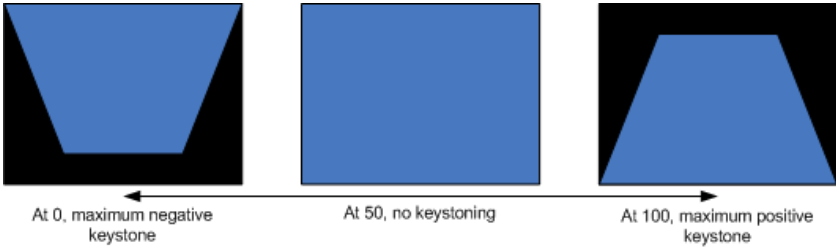
Command	Description
(CNR+TLCY 20)	Sets the top left vertical adjustment value to 20.

Geometry Correction (WRP)

Use this command to apply a geometry correction to an image. These are the available options:

- Off - A geometry correction is not applied to the image.

- Basic - Adjusts keystone and pincushion when a Dual Processor Warp Module (DPWM) is not installed. If a DPWM is installed, keystone, pincushion/barrel, and 4-corner can be adjusted.

- Curve - Adjusts curve and 4-corner when a DPWM is installed. This option is unavailable if a DPWM is not installed.

- Rotate - Adjusts rotate and 4-corner when a DPWM is installed. This option is unavailable if a DPWM is not installed.

Subcode

Subcode	Description
SLCT	Applies a geometry correction to an image.
HKST	Corrects image distortion created when the projected image is to the left or right of the lens axis. Increase the value to increase right keystoning. At 0, maximum left keystone At 50, no keystoning At 100, maximum right keystone When a Dual Processor Warp Module (DPWM) is not installed, the adjustment range is 0 to 100 and the default is 50. When a DPWM is installed, the adjustment range is 0 to 20 and the default is 10.
VKST	Corrects the distortion created when the projected image is above or below the lens axis. Increase the value to increase positive keystoning. At 0, maximum negative keystone At 50, no keystoning At 100, maximum positive keystone When a Dual Processor Warp Module (DPWM) is not installed, the adjustment range is 0 to 100 and the default is 50. When a DPWM is installed, the adjustment range is 0 to 20 and the default is 10.

Read/Write

Yes

Examples

Command	Description
(WRP+SLCT 1)	Adjusts keystone and pincushion when a Dual Processor Warp Module (DPWM) is not installed. If a DPWM is installed, keystone, pincushion/barrel, and 4-corner can be adjusted.
(WRP+HKST 50)	Sets the horizontal keystone value to 50.
(WRP+VKST 50)	Sets the vertical keystone value to 50.

Horizontal Pincushion (HPC)

Use this command to adjust horizontal distortion when a Dual Processor Warp Module (DPWM) is not installed. If a DPWM is installed use the pincushion/barrel function for adjustments.

The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes
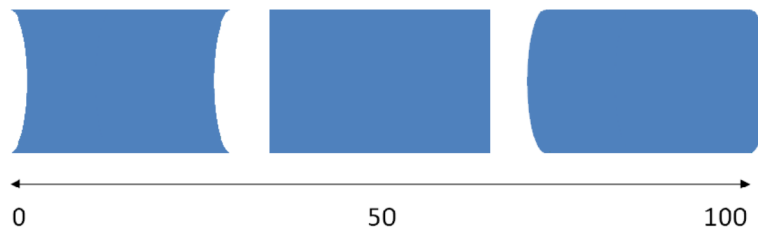
Examples

Command	Description
(HPC50)	Sets the horizontal distortion value to 50.

Horizontal Position (HOR)

Use this command to move the starting point of the input capture. When applying this function, some of the active area is blank. Increase the value to move the active image to the right. The adjustment range is 0 to 100 and the default value is 50.

Subcode

No

Read/Write

Yes

Examples

Command	Description
(HOR50)	

Over Scan (OVS)

Use this command to modify how the input image edges are framed and remove noise from around the image.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(OVS0):OFF	
(OVS1):ZOOM	
(OVS2):CROP	

Pixel Phase (PXP)

Use this command to adjust the pixel clock phase for analog inputs. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(PXP50)	Sets the pixel phase to 50.

Pincushion/Barrel (PCB)

Use this command to correct curved distortion caused by the lens or the projection surface. This command is not available if a Dual Processor Warp Module (DPWM) is not installed.

The adjustment range is 0 to 20 and the default value is 10. This image illustrates the maximum adjustment range:
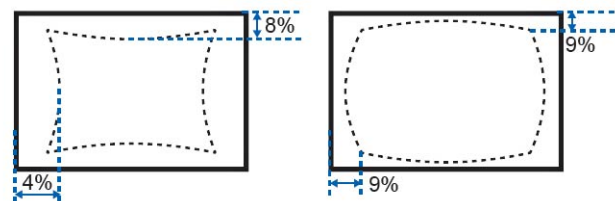
Subcode

None

Read/Write

Write only

Examples

Command	Description
(PCB20)	Sets the pincushion/barrel value to 20.

Pixel Track (PXT)

Use this command to adjust the number of horizontal sync pixel clocks. The adjustment range is 0 to 100 and the default value is 50. Applies only to analog RGB signals.

Multiple soft vertical stripes or bands across the entire image indicate poor pixel tracking. Proper pixel tracking ensures the image quality is consistent across the screen, the aspect ratio is maintained, and the pixel phase is optimized.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(PXT50)	

Rotation Geometry Correction (ROT)

Use this command to rotate and level an image. When an image is rotated, content falling outside of the display area is cropped. To prevent cropping the image is not automatically scaled down. If scaling is required, use the digital zoom function.

This command is not available if a Dual Processor Warp Module (DPWM) is not installed.

The adjustment range is 0 to 20 and the default value is 10.

This image illustrates the maximum adjustment range:
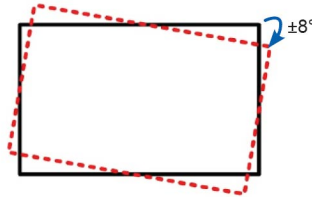
Subcode

None

Read/Write

Write only

Examples

Command	Description
(ROT1)	Sets the rotation correction value to 1.

Size Presets (SZP)

Use this command to:

- Display an image with the default size.
- Resize an image by maximizing the height, width, or both.
- Resize an image to the maximum size and maintain the original aspect ratio.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(SZP0):Auto	Displays an image with the detected size. (Default)
(SZP1):Native	Displays the image in its native resolution.
(SZP2):4:3	Retains the 4:3 aspect ratio.
(SZP3):LetterBox	Displays the image with black borders on the top and bottom.
(SZP4):Full Size	Fills the screen with the image (regardless of the source).
(SZP5):Full Width	Stretches the image to the full display width and keeps the aspect ratio.
(SZP6):Full Height	Stretches the image to the full display height and keeps the aspect ratio.
(SZP7):Custom	Displays the image with a custom size and position for each source. This command can only be run on DWX600-G, DHD600-G, and DWU600-G projectors.

Vertical Pincushion (VPC)

Use this command to adjust vertical distortion when a Dual Processor Warp Module (DPWM) is not installed. If a DPWM is installed use the pincushion/barrel function for adjustments.

The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes
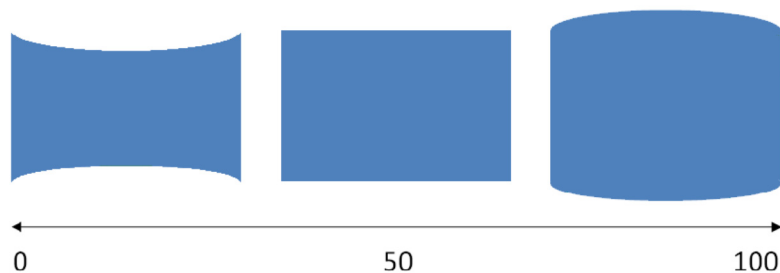
Examples

Command	Description
(VPC50)	Sets the vertical distortion value to 50.

Vertical Position (VRT)

Use this command to move the starting point of the input capture. When applying this function, some of the active area is blank. Increase the value to move the active image up. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(VRT50)	

Image Setting Commands

This section lists the commands that you can use to modify image settings.

Blank on Signal Switch (BSS)

Use this command to modify the projector response when it is acquiring a signal or switching inputs. The default is off.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(BSS 0)	Turns blank on signal switch off.
(BSS 1)	Turns blank on signal switch on.

Blue Gain (BOG)

Use this command to adjust the blue gain of an image. This setting can only be applied to VGA or component signals. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(BOG50)	Sets the blue gain to 50.

Blue Offset (ROO)

Use this command to adjust the blue offset of an image. Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(BOO50)	Sets blue offset to 50.

Brightness (BRT)

Use this command to adjust the image black level by applying an offset to the input image.

The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(BRT50)	Sets the black level value to 50.

Brilliant Color (BCL)

Use this command to produce an expanded on screen color spectrum that delivers enhanced color saturation for bright, true to life images. The application of this setting increases image brightness and reduces color accuracy.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(BCL0):Normal Look	Sets the image color spectrum to normal.
(BCL1):Bright Look	Sets the image color spectrum to bright.

Closed Captions (CLC)

Use this command to control when closed captions are displayed. When active, the NTSC source containing captions is active on a selected channel and the captions are overlaid on the image. The default is `Off`.

Subcode

None. Use `n` and `p` to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(CLC0):off	Turns closed captions off.
(CLC1):CC1	Activates closed captions on channel 1.
(CLC2):CC2	Activates closed captions on channel 2.

Color (CLR)

Use this command to adjust the color saturation of analog video sources.

The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(CLR50)	Sets the color saturation value to 50.

Color Enhancement (HSG)

Use this command to apply a one of two preset color enhancements.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(HSG 0)	Turns color enhancement off.
(HSG 1)	Applies color enhancement mode 1 to the input signal.
(HSG 2)	Applies color enhancement mode 2 to the input signal.

Color Space (CSP)

Use this command to select a specific color space for an input signal. The default is `Auto`.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(CSP0):RGB`	Selects the RGB color space for the input signal.
`(CSP1):REC709`	Selects the REC709 color space for the input signal.
`(CSP2):REC601`	Selects the REC601 color space for the input signal.
`(CSP3):RGB Video`	Selects the RGB Video color space for the input signal.
`(CSP4):Auto`	Selects automatic for the input signal color space.

Color Temperature (CCI)

Use this command to apply a predefined color temperature value to the input signal.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(CCI0):Warmest`	Applies the warmest color temperature to the input signal.
`(CCI1):Warm`	Applies the warm color temperature to the input signal.
`(CCI2):Cool`	Applies the cool color temperature to the input signal.
`(CCI3):Bright`	Applies the bright color temperature to the input signal.

Color Wheel Speed (CWS)

Use this command to increase the color wheel speed.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(CWS0):Set Color Wheel speed to 2x setting	Increases the color wheel speed to twice the current value.
(CWS1):Set Color Wheel speed to 3x setting	Increases the color wheel speed to three times the current value.

Contrast (CON)

Use this command to adjust the image white level by applying a gain to the input image. This command adjusts the degree of difference between the lightest and darkest parts of the image.

The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(CON50)	Sets the white level value to 50.

Detail (DTL)

Use this command to apply a predefined sharpness setting to the current input signal. The default is `Normal.`

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(DTL0):Maximum`	Sets the sharpness setting to its maximum value.
`(DTL1):High`	Sets the sharpness setting to high.
`(DTL2):Normal`	Sets the sharpness setting to normal.
`(DTL3):Low`	Sets the sharpness setting to low.
`(DTL4):Minimum`	Sets the sharpness setting to its minimum value.

Detect Film (FMD)

Use this command to control film mode detection. When active, video motion is analyzed to determine if the video input is film (interlaced) or video (progressive). The analysis allows interlaced content to display correctly. The default is `Off`.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(FMD0):Detect film OFF`	Turns film detect off.
`(FMD1):Detect film ON`	Turns film detect on.

Dynamic Black (DIM)

Use this command to allow the projector to automatically adjust the black values of the displayed image. The default is `Off`.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(DIM0):DynamicBlack off`	Turns dynamic black off.
`(DIM1):DynamicBlack on`	Turns dynamic black on.

Edge Enhancement (EDG)

Use this command to apply edge enhancement to an image.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(EDG0): off`	Turns edge enhancement off.
`(EDG1): normal`	Sets edge enhancement to normal.
`(EDG2): Maximum`	Sets edge enhancement to the maximum value.

Flesh Tone Correction (FTC)

Use this command to modify the flesh tone setting in an image. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
`(FTC50)`	Sets the flesh tone setting to 50

Gamma Curve (BGC)

Use this command to select a gamma correction curve.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(BGC0):Video	Selects a gamma correction curve for video input.
(BGC1):Film	Selects a gamma correction curve for film input.
(BGC2):Bright	Selects a gamma correction curve for bright content.
(BGC3):CRT	Selects a gamma correction curve for computer input.
(BGC4):DICOM	Selects a gamma correction curve for DICOM input. This command can only be run on DWX600-G, DHD600-G, and DWU600-G projectors.

Green Gain (GOG)

Use this command to modify the green gain of an image. This setting can only be applied to VGA or component signals. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(GOG50)	Sets the green gain to 50

Green Offset (GOO)

Use this command to adjust the green offset of an image. Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(GOO50)	Sets green offset to 50.

Image Freeze (FRZ)

Use this command to pause playback.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(FRZ 1):Freeze the image	Pauses playback.

Noise Reduction (NRD)

Use this command to reduce the temporal and spatial noise in an image.The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(NRD50)	Sets the noise reduction setting to 50.

Picture Setting (PST)

Use this command to change the values for picture-related settings for the current source to a set of predefined values. This setting optimizes the projector display for certain conditions, including presentation, video, bright, whiteboard, blackboard, beige wall, and presets defined by the user. Applying this setting affects gamma, sharpness, white peaking, overscan, brightness, contrast, color, tint, red gain, green gain, blue gain, red offset, green offset, and blue offset.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(PST0):Presentation`	Optimizes the projector for presentation content.
`(PST1):Video`	Optimizes the projector for video content.
`(PST2):Bright`	Optimizes the projector for bright viewing conditions.
`(PST3):Whiteboard`	Optimizes the projector to display content on a whiteboard.
`(PST4):Blackboard`	Optimizes the projector to display content on a blackboard.
`(PST5):Beige Wall`	Optimizes the projector to display content on a beige wall.
`(PST6):Real`	Optimizes the projector for accurate color reproduction.
`(PST7):User`	Sets the projector output to user defined parameters. This command can only be run on DHD550-G and DWU550G projectors.
`(PST7):DICOM SIM`	Sets the projector output to the parameters defined by the DICOM input. This command can only be run on DWX600-G, DHD600-G, and DWU600-G projectors.
`(PST8):User`	Sets the projector output to user defined parameters. This command can only be run on DWX600-G, DHD600-G, and DWU600-G projectors.
`(PST+USER1):Store current settings to User Mode`	Stores the current setting to a user profile.

Red Gain (ROG)

Use this command to adjust the red and white color of VGA and component input signals. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(ROG50)	Sets the red gain value to 50.

Red Offset (ROO)

Use this command to adjust the red offset of an image. Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(ROO50)	Sets red offset to 50.

RGB Gain/Offset Reset (GOR)

Use this command to reset red, green, blue gain and offset values.

Subcode

None

Read/Write

Yes

Examples

Command	Description
`(GOR1):Reset RGB Gain/Offset settings`	Resets the red, green, and blue offset values to their default settings.

Sync Threshold (SYT)

Use this command to adjust the sync threshold for sync-on-green (SOG) signals. This setting determines whether a negative pulse is a sync or active video. This setting is required when the active video sync is on the green or luma channel. The adjustment range is 0 to 100 and the default value is 50.

Subcode

None

Read/Write

Yes

Examples

Command	Description
`(SYT50)`	Sets the sync threshold to 50.

Tint (TNT)

Use this command to adjust the red and green balance of analog video NTSC sources.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(DTL0):Maximum`	Sets the sharpness setting to its maximum value.
`(DTL1):High`	Sets the sharpness setting to high.
`(DTL2):Normal`	Sets the sharpness setting to normal.

Command	Description
(DTL3):Low	Sets the sharpness setting to low.
(DTL4):Minimum	Sets the sharpness setting to its minimum value.

Video Black Level (VBL)

Use this command to optimize the black level of analog sources. When the option is on, the projector analyzes the current image, calculates an offset value, and adds it to the analog digital converter black level value.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(VBL0):IRE Off	Turns video black level optimization off.
(VBL1):IRE on	Turns video black level optimization on.

White Peaking (WPK)

Use this command to increase the brightness of whites to near 100%. This setting can only be applied to video sources. The adjustment range is 0 to 100.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(WPK50)	Sets white peak to 50.

Configuration Commands

This section lists the commands that you can use to modify projector settings.

Auto Power On (APW)

Use this command to turn the projector on with a wall switch and bypass standby mode. The default is off.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(APW0):OFF	Turns auto power off.
(APW1):ON	Turns auto power on.

Auto Shutdown (ASH)

Use this command to move the projector to standby mode if it is in search mode and cannot detect an active signal within a set period. The default is off.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(ASH0)	Turns auto shutdown off.
(ASH1) 5 MIN	Activates auto shut down after five minutes.
(ASH2) 10 MIN	Activates auto shut down after ten minutes.
(ASH3) 15 MIN	Activates auto shut down after 15 minutes.
(ASH4) 20 MIN	Activates auto shut down after 20 minutes.

Command	Description
`(ASH5) 25 MIN`	Activates auto shut down after 25 minutes.
`(ASH6) 30 MIN`	Activates auto shut down after 30 minutes.

Ceiling Mount Setting (CEL)

Use this command to change the image orientation of ceiling mounted projectors.

Subcode

None

Read/Write

Yes

Examples

Command	Description
`(CEL0):Ceiling mount off`	Turns the ceiling mount setting off.
`(CEL1):Ceiling mount on`	Turns the ceiling mount setting on and turns the image upside down.
`(CEL2):Auto`	Automatically adjusts image orientation to the projector position.

Change PIN (PCG)

Use this command to change the personal identification number (PIN) on a projector. The default is 12345.

Subcode

None

Read/Write

Yes

Examples

Command	Description
`(PCG"OOOOO,NNNNN")`	Replaces the existing PIN number. The value 00000 is the previous number and the value NNNNN is the new number.

Color Matching (CCA)

Use this command to define the hue of each primary color component (red, CCA green, blue, and white).

Subcode

Subcode	Description
MTRA	Turns meter adjustment on or off.
MTTP	Turns auto test patterns for meter adjustment items on or off.
RDMI	Specifies the red intensity.
RDMX	Specifies the x coordinate for red.
RDMY	Specifies the y coordinate for red.
GNMI	Specifies the green intensity.
GNMX	Specifies the x coordinate for green.
GNMY	Specifies the y coordinate for green.
BLMI	Specifies the blue intensity.
BLMX	Specifies the x coordinate for blue.
BLMY	Specifies the y coordinate for blue.
WHMI	Specifies the white intensity.
WHMX	Specifies the x coordinate for white.
WHMY	Specifies the y coordinate for white.
RDDG	Specifies the red gain.
RDDX	Specifies the x coordinate for red gain.
RDDY	Specifies the y coordinate for red gain.
GNDG	Specifies the green gain.
GNDX	Specifies the x coordinate for green gain.
GNDY	Specifies the y coordinate for green gain.
BLDG	Specifies the blue gain.
BLDX	Specifies the x coordinate for blue gain.
BLDY	Specifies the y coordinate for blue gain.
WHDG	Specifies the white gain.
WHDX	Specifies the x coordinate for white gain.
WHDY	Specifies the y coordinate for white gain.
MANA	Turns manual adjustment on.

Subcode	Description
MNTP	Turns auto test patterns for manual adjustment items on or off.
ROFR	Manually adjusts the red portion of red.
GOFR	Manually adjusts the green portion of red.
BOFR	Manually adjusts the blue portion of red.
GOFG	Manually adjusts the green portion of green.
ROFG	Manually adjusts the red portion of green.
BOFG	Manually adjusts the blue portion of green.
BOFB	Manually adjusts the blue portion of blue.
ROFB	Manually adjusts the red portion of blue.
GOFB	Manually adjusts the green portion of blue.
ROFW	Manually adjusts the red portion of white.
GOFW	Manually adjusts the green portion of white.
BOFW	Manually adjusts the blue portion of white.

Read/Write

Yes

Examples

Command	Description
(CCA+MTRA 1)	Turns meter adjustment on.
(CCA+MNTP 1)	Turns automatic test patterns for manual adjustments on.
(CCA+RDMI 453)	Sets the measured intensity of red to 453.

Edge Blending (EBL)

Use this command to create a single image from a multi-projector installation. This command is only available when a Dual Processing Warp Module is installed

Subcode

Subcode	Description
SLCT	Turns edge blending on or off.
MRKR	Turns marker on or off.
GRID	Turns the grid test pattern on or off.
COLR	Displays the solid color test pattern.

Subcode	Description
TOPW	Sets the top blend width.
BTMW	Sets the bottom blend width.
LFTW	Sets the left blend width.
RHTW	Sets the right blend width.
BLOF	Sets the bight area brightness offset.
NBOF	Sets the non-blend area brightness offset.
BGAM	Sets the blend area gamma drop off curve.

Read/Write

Yes

Examples

Command	Description
(EBL+SLCT 1)	Turns edge blending on.
(EBL+MRKR 1)	Turns marker frame on.
(EBL+GRID 2)	Displays the red grid test pattern. These are the valid values: • 0 (Off) • 1 (White) • 2 (Red) • 3 (Green) • 4 (Blue)
(EBL+COLR 2)	Displays the solid red test pattern. These are the valid values: • 0 (Off) • 1 (White) • 2 (Red) • 3 (Green) • 4 (Blue)
(EBL+TOPW 200)	Sets the top blend width to 200 pixels (0-half output height)
(EBL+BLOF 1000)	Sets the blend area brightness offset to 1000. The adjustment range is zero to 2000.
(EBL+NBOF 1000)	Sets the non-blend area brightness offset to 1000. The adjustment range is zero to 2000.
(EBL+BGAM 300)	Sets the blend area gamma drop off curve to 300. The adjustment range is 70-300.

Focus (FCS)

Use this command to adjust the lens focus.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Write only

Examples

Command	Description
(FCS n)	Increases the focus setting by 1.

High Altitude (HAT)

Use this command to increase the fan speeds to improve cooling when the projector is installed in a high altitude location.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(HAT0): High Altitude off	Turns high altitude functionality off.
(HAT1): High Altitude on	Turns high altitude functionality on.

Hot Key Settings (HKS)

Use this command to assign different functions to the infrared remote hot key.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(HKS0)	Blanks the screen.
(HKS1)	Adjusts the aspect ratio.
(HKS2)	Freezes the screen.
(HKS3)	Displays projector information.
(HKS4)	Activates overscan.
(HKS5)	Turns closed captions on or off.

Lens Center Calibration (LCB+HOME)

Use this command to move the lens the center horizontal and vertical position. Focus and zoom are unaffected.

Subcode

Subcode	Description
HOME	Centers the lens.

Read/Write

Write only

Examples

Command	Description
(LCB+HOME1)	Move the lens to center position 1.

Lens Shift Horizontal (LHO)

Use this command to adjust horizontal lens offset.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Write only

Examples

Command	Description
(LHO p)	Increases horizontal lens offset by 1.

Lens Shift Vertical (LVO)

Use this command to adjust vertical lens offset.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Write only

Examples

Command	Description
(LVO n)	Increases vertical lens offset by 1.

Local Settings (LOC)

Use this command to set the language for the on screen display (OSD).

Subcode

Subcode	Description
LANG	Sets the OSD to the specified language. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(LOC+LANG 0)	Sets the OSD language to English.
(LOC+LANG 1)	Sets the OSD language to Chinese.
(LOC+LANG 2)	Sets the OSD language to French.
(LOC+LANG 3)	Sets the OSD language to German.

Command	Description
(LOC+LANG 4)	Sets the OSD language to Italian.
(LOC+LANG 5)	Sets the OSD language to Japanese.
(LOC+LANG 6)	Sets the OSD language to Korean.
(LOC+LANG 7)	Sets the OSD language to Russian.
(LOC+LANG 8)	Sets the OSD language to Spanish.

Lock Lens Motors (LCB+LOCK)

Use this command to lock all lens motors.

Subcode

Subcode	Description
LOCK	Locks the zoom, focus, horizontal and vertical lens motors. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(LCB+LOCK0):Allow	Allows movement of the zoom, focus, horizontal and vertical lens motors.
(LCB+LOCK1):Locked	Locks the zoom, focus, horizontal and vertical lens motors.

Menu Shift Horizontal (MSH)

Use this command to move on screen menus and messages horizontally. The adjustment range is 0 to 100 and the default value is 0.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(MSH0)	Moves the on screen menu to the left.

Menu Shift Vertical (MSV)

Use this command to move on screen menus and messages vertically. The adjustment range is 0 to 100 and the default is 0.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(MSV50)	Moves the on screen menu to the center.

Menu Transparency (OST)

Use this command to modify the transparency of on screen menus and messages. The adjustment range is 0 to 90 and the default is 0.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(OST0)	Turns transparency off.

Message Box Enable (MBE)

Use this command to move turn on screen messages on or off. The default is on.

Subcode

Subcode	Description
USER	Turns on screen messages on or off. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
`(MBE+USER0):OFF`	Turns on screen messages off.
`(MBE+USER1):ON`	Turns on screen messages on.

Network (NET)

Use this command to modify network settings.

Subcode

Subcode	Description
`DHCP`	Turns DHCP on or off.
`ETH0`	Modifies Ethernet settings.
`SUB0`	Modifies subnet mask settings.
`GATE`	Modifies gateway settings.
`HOST`	Modifies the projector name.
`MAC0`	Modifies the MAC address settings.
`SHOW`	Turns network messages on or off.
`RSTR`	Restarts the projector.
`RSET`	Returns the projector name, LAN IP address, WLAN IP address, and SNMP settings to their factory defaults.

Read/Write

Yes

Examples

Command	Description
`(NET+DHCP0)`	Turns DHCP off.
`(NET+HOST"DWU550-G")`	Sets the projector name to DWU550-G.
`(NET+MAC0"00:E0:47:01:02:3C")`	Sets the MAC address to 00:E0:47:01:02:3C.
`(NET+SHOW1)`	Turns network messages on.
`(NET+ETH0"192.168.000.001")`	Sets the Ethernet address to 192.168.000.001.

Command	Description
(NET+RSTR1)	Restarts the projector.
(NET+SUB0"255.255.255.000")	Sets the subnet mask to 255.255.255.000.

PIN Protect (PIV)

Use this command to activate password protection to the projector. A personal identification number (PIN) must be provided before an image can be displayed.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(PIV"XXXXX")	Activates password protection on the projector. Replace each X with a value from zero to nine.

Projector Address (ADR)

Use this command to set the projector address. When set, the projector responds to the projector address or an infrared remote set to address zero. Press the **PROJ** key on the infrared remote to set the address for the remote. The default is zero and universal address.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(ADR 6)	Sets the projector address to six.

Rear Projection (SOR)

Use this command to reverse the image so it can be projected from behind a translucent screen.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(SOR0):Off	Turns rear projection off.
(SOR1):On	Turns rear projection on.

Rear Projection (SOR)

Use this command to reverse the image so it can be projected from behind a translucent screen.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(SOR0):Off	Turns rear projection off.
(SOR1):On	Turns rear projection on.

Serial Port Baud Rate (BDR)

Use this command to set the serial port baud rate. The default is 115200.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(BDR0):2400	Sets the baud rate to 2400.
(BDR1):4800	Sets the baud rate to 4800.
(BDR2):9600	Sets the baud rate to 9600.
(BDR3):14400	Sets the baud rate to 14400.
(BDR4):19200	Sets the baud rate to 19200.
(BDR5):38400	Sets the baud rate to 38400.
(BDR6):57600	Sets the baud rate to 57600.
(BDR7):115200	Sets the baud rate to 115200.
(BDR8):1200	Sets the baud rate to 1200.

Serial Port Echo (SEC)

Use this command to turn serial port character echo on or off. The default is off.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(SEC0):OFF	Turns serial port character echo off.
(SEC1):ON	Turns serial port character echo on.

Sleep Timer (SLP)

Use this command to turn the projector off after a set period. Timing starts when the projector is turned on or when the sleep timer auto power off function is cancelled. Automatic power off functions when an image is displayed. The default is off.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(SLP0):OFF	Turns the sleep timer off.
(SLP1):2 Hrs.	Turns the sleep timer on after two hours.
(SLP2):4 Hrs.	Turns the sleep timer on after four hours.
(SLP3):6 Hrs	Turns the sleep timer on after six hours.

Splash Screen Setup (SPS)

Use this command to identify which splash screen displays when an image or test pattern is not displayed. The default is Factory Logo.

Subcode

Subcode	Description
SLCT	Identifies the splash screen to display. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(SPS+SLCT0):Factory Logo	Displays the factory logo.
(SPS+SLCT1):Blue	Displays a blue screen.
(SPS+SLCT2):Black	Displays a black screen.
(SPS+SLCT3):White	Displays a white screen.

Standby Mode (PWR+STBM)

Use this command to place the projector in standby mode.

Subcode

Subcode	Description
STBM	Places the projector in standby mode. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(PWR+STBM0):0.5W mode	Places the projector in 0.5W mode. In this mode, the projector consumes less than 0.5W and only the keypad receives power. The projector cannot be started by selecting UART > WEB > USB.
(PWR+STBM1):Communication	Places the projector in communication mode. In this mode, the projector consumes 20W and the keypad, remote, and wired and wireless connections remain active. The projector can be started by selecting UART > WEB > USB.

Wireless Network (NTW)

Use this command to modify the wireless network settings.

Subcode

Subcode	Description
SLCT	Turns wireless LAN on or off.
ETH0	Modifies the IP address.
SUB0	Modifies the subnet mask.
GATE	Modifies the default gateway.
MAC0	Modifies the MAC address.

Read/Write

Yes

Examples

Command	Description
(NET+SLCT1)	Turns wireless LAN on.
(NET+MAC0"00:E0:47:01:02:3C")	Sets the MAC address to 00:E0:47:01:02:3C.
(NET+ETH0"192.168.000.001")	Sets the IP address to 192.168.000.001.
(NET+SUB0"255.255.255.000")	Sets the the subnet mask to 255.255.255.000.

Zoom (ZOM)

Use this command to adjust the lens zoom.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Write only

Examples

Command	Description
(ZOM p)	Decreases zoom by 1.

Lamp Commands

This section lists the commands that you can use to manage the projector lamp.

Lamp Info (LIF)

Use this command to return lamp hour information.

Subcode

Subcode	Description
LP1H	Returns the number of hours the lamp was operating.
LPTH	Returns the number of hours for all lamps.

Read/Write

Read only

Examples

Command	Description
(LIF+LP1H?)	Returns the number of hours the lamp has been operating.

Lamp Intensity (LPI)

Use this command to set the constant intensity value.

A light sensor monitors the light level and power is increased as lamp brightness decreases until it reaches maximum power. When you replace a lamp or select "Reset Lamp Hours" you must calibrate the light sensor. The adjustment range is zero to ten and the default is seven.

Subcode
None

Read/Write
Yes

Examples

Command	Description
(LPI 5)	Sets lamp intensity to five.

Lamp Life Warning (LPL)

Use this command to set the period when a warning message appears indicating the lamp is reaching the end of its operational life.

This command is user defined and is not an accurate measurement of remaining lamp life. The default is zero (no warning message generated).

Subcode
None

Read/Write
Yes

Examples

Command	Description
(LPL1500)	Generates a warning message when the lamp has operated for 1500 hours.

Lamp Mode (LPM)

Use this command to apply different lamp modes.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(LPM0)	Sets the lamp to constant power. The power value must be set with the Lamp Power command.
(LPM1)	Sets the lamp to constant intensity mode. The intensity value must be set with the Lamp Intensity command.
	You cannot apply this mode if the light sensor has not been calibrated.
(LPM2)	Sets the lamp to ECO mode. The fan speed operates at its lowest setting and lamp power is adjusted to its minimum setting.

Lamp Power (LPP)

Use this command to set the lamp power. For DHD550-G and DWU550-G projectors, the power range is 280 to 370W. For DWX600-G, DHD600-G, and DWU600-G projectors, the power range is 360 to 465W.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(LPP360)	Sets lamp power to 360W.

Light Sensor Calibration (LLC)

Use this command to calibrate the light sensor. Complete a calibration whenever the lamp is replaced.

Subcode

Subcode	Description
STAT	Returns the current light sensor calibration setting.

Read/Write

Write only

Examples

Command	Description
(LLC 1)	Calibrates the light sensor.
(LLC+STAT?)	Returns the current light sensor calibration setting. If the light sensor is calibrated, (LLC! 1) is returned.

Reset Lamp Hours (LPC)

Use this command to reset the lamp hours.

Subcode

Subcode	Description
LMP1	Resets the lamp hours.

Read/Write

Write only.

Examples

Command	Description
(LPC+LMP11)	Resets the lamp hours.

Input Switching and Picture-in-Picture Commands

This section lists the commands to switch inputs and manage picture-in-picture settings.

Enable Main Source Hot Key (ESH)

Use this command to use the zero or nine hot keys to select the input source.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(ESH0)	Turns hot key functionality on.
(ESH1)	Turns hot key functionality off.

Input and Source Change Functions (SIN)

Use this command to change the input source.

Subcode

Subcode	Description
MAIN#	Displays the input as the main image.
PIP#	Displays the input as the picture-in-picture image.

Read/Write

Yes

Examples

Command	Description
(SIN1) VGA	Selects VGA as the input source.
(SIN2)	

Command	Description
`(SIN3)`	
`(SIN4) HDMI`	Selects HDMI as the input source.
`(SIN5) DVI-D`	Selects DVI-D as the input source.
`(SIN6) DisplayPort`	Selects DisplayPort as the input source.
`(SIN7) Component`	Selects Component as the input source.
`(SIN8) S-Video`	Selects S-video as the input source.
`(SIN9) Composite`	Selects composite as the input source.
`(SIN10) Christie Presenter`	Selects the Christie presenter as the input source.
`(SIN11) Card Reader`	Selects the card reader as the input source.
`(SIN12) Mini USB`	Selects the mini USB as the input source.

Main Source Hot Key Settings (MHK)

Use this command to assign a hot key to a specific input source.

Subcode

Subcode	Description
`VGA1`	Assigns the VGA1 input to a number key.
`HDM1`	Assigns the HDMI input to a number key.
`DVID`	Assigns the DVI-D input to a number key.
`CON1`	Assigns the component input to a number key.
`SVDO`	Assigns the S-video input to a number key.
`COPS`	Assigns the composite input to a number key.
`DPRT`	Assigns the display port input to a number key.
`NTWD`	Assigns the Christie presenter network display input to a number key.
`CRDR`	Assigns the card reader input to a number key.
`USBM`	Assigns the mini-USB input to a number key.

Read/Write

Yes

Examples

Command	Description
`(MHK+VGA18)`	Assigns the VGA1 input to hot key eight.

Main (Single) Source Info (MIF)

Use this command to return the current settings for the main image input.

Subcode

Subcode	Description
ACTS	Returns the active source.
SGFT	Returns the signal format.
APRT	Returns the aspect ratio.
RESL	Returns the resolution.
VREF	Returns vertical refresh information.
HREF	Returns horizontal refresh information.
PIXC	Returns the pixel clock settings.
SYNC	Returns the sync type.
CLSP	Returns the color space setting.

Read/Write

Read only.

Examples

Command	Description
(MIF+RESL?)	Returns the image resolution.

Picture-in-Picture and Picture-by-Picture Functions (PIP)

Use this command to turn picture-in-picture or picture-by-picture on or off.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(PIP 0)	Turns picture-in-picture or picture-by-picture off.
(PIP 1)	Turns picture-in-picture or picture-by-picture on.

Picture-in-Picture and Picture-by-Picture Layout (PPP)

Use this command to set the location of the picture-in-picture or picture-by-picture on image.
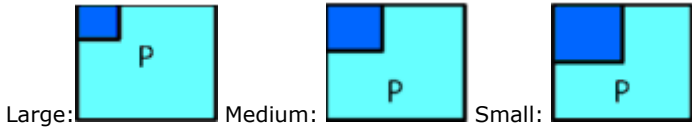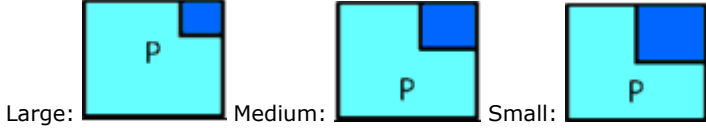
Subcode

None

Read/Write

Yes

Examples

Command	Description
(PPP0)	Places the picture-by-picture image on the left in the main image. For example: Large: Medium: Small:
(PPP1)	Places the picture-by-picture image on the top in the main image. For example: Large: Medium: Small:
(PPP2)	Places the picture-by-picture image on the right in the main image. For example: Large: Medium: Small:
(PPP3)	Places the picture-by-picture image on the bottom in the main image. For example: Large: Medium: Small:
(PPP4)	Places the picture-in-picture image on the bottom right. For example: Large: Medium: Small:
(PPP5)	Places the picture-in-picture image on the bottom left. For example: Large: Medium: Small:

Command	Description
(PPP6)	Places the picture-in-picture image on the top left. For example: Large: Medium: Small:
(PPP7)	Places the picture-in-picture image on the top right. For example: Large: Medium: Small:

Picture-in-Picture and Picture-by-Picture Size (PHS)

Use this command to set the picture-in-picture or picture-by-picture size.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(PHS0)	Creates a small picture-in-picture or picture-by-picture.
(PHS1)	Creates a medium picture-in-picture or picture-by-picture.
(PHS2)	Creates a large picture-in-picture or picture-by-picture.

Picture-in-Picture and Picture-by-Picture Swap (PPS)

Use this command to switch between picture-in-picture or picture-by-picture on or off.

Subcode

None

Read/Write

Yes

Examples

Command	Description
(PIP 0)	Turns picture-in-picture or picture-by-picture off.
(PIP 1)	Turns picture-in-picture or picture-by-picture on.

Secondary Source Info (SIF)

Use this command to return the current settings for the picture-in-picture or picture-by-picture.

Subcode

Subcode	Description
ACTS	Returns the active source.
SGFT	Returns the signal format.
APRT	Returns the aspect ratio.
RESL	Returns the resolution.
VREF	Returns vertical refresh information.
HREF	Returns horizontal refresh information.
PIXC	Returns the pixel clock settings.
SYNC	Returns the sync type.
CLSP	Returns the color space setting.

Read/Write

Read only.

Examples

Command	Description
(SIF+RESL?)	Returns the picture-in-picture or picture-by-picture image resolution.

Source Key Function Setting (SKS)

Use this command to assign functionality to the source hot key. The default is list all sources.

Subcode

None

Read/Write

Read only.

Examples

Command	Description
(SKS0)	Changes the hot key source.
(SKS1)	Returns a list of all sources.
(SKS2)	Allows source changes with the Auto button.

Timing Detect Mode (TMG)

Use this command to set the timing detection mode to wide or normal.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(TMG0)	Sets the timing detection mode to normal.
(TMG1)	Sets the timing detection mode to wide.

Service Commands

This section lists projector service commands.

Color Wheel Index Setting (CWI)

Use this command to set the color wheel index speed. This command can only be run when the projector is in service mode.

Subcode

Subcode	Description
SPX2	Sets the color wheel index speed to 2x.

Subcode	Description
SPX3	Sets the color wheel index speed to 3x.

Read/Write

Yes

Examples

Command	Description
(CWI+SPX2 26)	Sets color wheel index 26 speed to 2x.

Enter Service Code (UID)

Use this command to place the projector in service mode.

Subcode

None

Read/Write

Write only.

Examples

Command	Description
(UID"service,service")	Places the projector in service mode.

Error Log (ERR)

Use this command to display or clear the error log.

Subcode

Subcode	Description
CLER	Clears the error log.

Read/Write

Write only.

Examples

Command	Description
(ERR?)	Displays the error log.
(ERR+CLER1)	Clears the error log.

Factory Defaults (DEF)

Use this command to return all settings to their factory defaults. To prevent accidental use of this command, the number 111 must follow the command. This command can only be run when the projector is in service mode.

Subcode

None

Read/Write

Write only.

Examples

Command	Description
(DEF 111)	Returns all settings to their factory defaults.

Mode Adjustment (MDT)

Use this command to adjust the horizontal and vertical start position for a signal in the EDID timing table and record the values in the system to override the timing table. Run a `Save` command to keep the settings before exiting. To revert to the original timing table settings, manually clear each setting. You cannot use the Factory Defaults command to clear these settings.

Subcode

Subcode	Description
HPOS	Applies a horizontal offset.
VPOS	Applies a vertical offset.
SAVE	Saves the settings
CLER	Clears the setting.

Read/Write

Write only.

Examples

Command	Description
(MDT?)	Returns the current mode adjustment settings.
(MDT+HPOS123)	Applies a horizontal offset to the specified position.
(MDT+SAVE1)	Saves the MDT settings.
(MDT+CLER1)	Clears the MDT settings.

Projector Info (PIF)

Use this command to return projector information. This command can only be run when the projector is in service mode.

Subcode

Subcode	Description
MDLN	Returns the model name.
SNUM	Returns the serial number.
NERS	Returns the native resolution.
FWVS	Returns the firmware version.
CFVS	Returns configuration information.
BCVS	Returns the boot code.

Read/Write

Read only.

Examples

Command	Description
(PIF+MDLN?)	Returns the model name.

Serial Command Functions

This section lists the functions that are used by serial command.

E Series Serial Command Version (SIV)

Use this command to return the E series serial command version.

Subcode

None

Read/Write

Read only.

Examples

Command	Description
(SIV?)	Returns the E series serial command version.

Get Last System Error (LSE)

Use this command to return the last system error.

Subcode

None

Read/Write

Read only.

Examples

Command	Description
(LSE?)	Returns the last system error. For example: • LSE=1 - The lamp did not strike after 5 attempts. • LSE=3 - The lamp went out unexpectedly. • LSE=4 - Fan failure. • LSE=5 - Over temperature.

Key Code Entry Setting (KEY)

Use this command to send key codes to the projector. This command is typically used by manufacturing and service to simulate key pad and infrared remote inputs.

Subcode

None

Read/Write

Read only.

Examples

Command	Description
`(KEY17)`	Sends menu key 17 to the projector and displays the menu on the on screen display.

Infrared Remote Key Codes

Remote Button	Key Code (Decimal)	Remote Button	Key Code (Decimal)
ON (Power)	57	ENTER	40
Standby (Power Off)	58	INPUT	48
INFO	66	OSD	49
AUTO	47	CONTRAST	24
1	26	BRIGHT	25
2	27	FOCUS_LEFT	5
3	28	FOCUS_RIGHT	6
4	29	PROJ	22
5	30	GAMMA	23
6	31	ZOOM-	9
7	32	ZOOM+	10
8	33	KEYSTONE H-LEFT	69
9	34	KEYSTONE H-RIGHT	70
HELP	35	LENS H-LEFT	13
0	36	LENS H-RIGHT	14
HOT KEY	65	KEYSTONE V-UP	71
MENU	19	KEYSTONE V-DOWN	72
TEST	1	LENS V-UP	18
SHUTTER	2	LENS V-DOWN	17
EXIT	20	PIP/POP	15
UP	38	SIZE	67
RIGHT	41	LAYOUT	68
DOWN	42	SWAP	43
LEFT	39		

Last Serial Command Error (LCE)

Use this command to return the last serial command error.

Subcode

None

Read/Write

Read only.

Examples

Command	Description
(LCE?)	Returns the last serial command error.

OSD Show or Hide (OSD)

Use this command to show or hide the on screen display. If the menu is displayed and the on screen display is hidden, the on screen display disappears. When the on screen display is shown, the menu reappears in the same location that it was before the on screen display was hidden.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(OSD0)	Hides the on screen display.
(OSD1)	Shows the on screen display.

Power On or Off (PWR)

Use this command to turn the projector on or off.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(PWR0)	Turns the projector off.
(PWR1)	Turns the projector on.
(PWR?)	Returns the current power state of the projector. For example, (PWR!11) is returned when the projector is warming up and (PWR!10) is returned when the projector is cooling down.

Shutter On and Off Control (SHU)

Use this command to open or close the shutter.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(SHU0)	Opens the shutter.
(SHU1)	Closes the shutter and displays a black screen.

Source Name Setting (SNS)

Use this command to change the source name to a user-defined name.

Subcode

Subcode availability is determined by your hardware configuration.

Subcode	Description
SRC0	Applies a new name to the VGA1 input.
SRC1	Applies a new name to the VGA2 input.
SRC2	Applies a new name to the BNC input.
SRC3	Applies a new name to the HDMI1 input.

Subcode	Description
SRC4	Applies a new name to the HDMI2 input.
SRC5	Applies a new name to the component input.
SRC6	Applies a new name to the S-video input.
SRC7	Applies a new name to the video input.

Read/Write

Yes

Examples

Command	Description
(SNS+SRC1"WUXGA")	Changes the source name to WUXGA from VGA1.

Miscellaneous Commands

Projector Status (SST)

Use this command to query the status of the projector.

Subcode

None

Read/Write

Read only.

Examples

Command	Description

`(SST?)`	Returns this information:
	`(SST!000 "DWU550-G" "Model Name")`
	`(SST!001 "G11224014" "Serial Number")`
	`(SST!002 "1920x1200" "Native Resolution")`
	`(SST!003 "HDMI 1" "Main Input")`
	`(SST!004 "Digital" "Main Signal Format")`
	`(SST!005 "148.5MHz" "Main Pixel")`
	`(SST!006 "Separate" "Main Sync Type")`
	`(SST!007 "67.7kHz" "Main Horz Refresh")`
	`(SST!008 "60.0Hz" "Main Vert Refresh")`
	`(SST!009 "HDMI 2" "PIP / PBP Input")`
	`(SST!010 "Digital" "PIP / PBP Signal Format")`
	`(SST!011 "135.2MHz" "PIP / PBP Pixel Clock")`
	`(SST!012 "Separate" "PIP / PBP Sync Type")`
	`(SST!013 "62.7kHz" "PIP / PBP Horz Refresh")`
	`(SST!014 "60.0Hz" "PIP / PBP Vert Refresh")`
	`(SST!015 "330 W" "Lamp Power Setting")`
	`(SST!016 "Lamp 1" "Current Lamp")`
	`(SST!017 "10 Hours" "Lamp 1 Hours")`
	`(SST!018 "Reserve")`
	`(SST!019 "0.5W Mode" "Standby Mode")`
	`(SST!020 "Allow" "Lens Lock Setting")`
	`(SST!021 "192.168.1.10" "IP Address")`
	`(SST!022 "On" "DHCP")`
	`(SST!023 "24C" "System Temperature")`
	`(SST!024 "V30, A27, B21")`
	`(SST!025 "--END--" "")`

Test Pattern (ITP)

Use this command to display a test pattern. Some test patterns require Service permissions. The switch from a grid or color bar test pattern can take 18 seconds.

Subcode

None. Use **n** and **p** to select next and previous values.

Read/Write

Yes

Examples

Command	Description
(ITP0)	Turns test patterns off.
(ITP1)	Displays a grid test pattern.
(ITP2)	Displays a white test pattern.
(ITP3)	Displays a black test pattern.
(ITP4)	Displays a checkerboard test pattern.
(ITP5)	Displays a color bar test pattern.
(ITP6)	Displays a red test pattern. Service permissions required.
(ITP7)	Displays a green test pattern. Service permissions required.
(ITP8)	Displays a blue test pattern. Service permissions required.
(ITP9)	Displays a yellow test pattern. Service permissions required.
(ITP10)	Displays a magenta test pattern. Service permissions required.
(ITP11)	Displays a cyan test pattern. Service permissions required.
(ITP12)	Displays a boresight test pattern. Service permissions required.

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